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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/670,016

09/24/2003

Lee D. Tice

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(8364-90491)

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7590

10/18/2005

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EXAMINER

PREVIL, DANIEL

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/670,016

Applicant(s)

TICE, LEE D.

Examiner

Daniel Previl

Art Unit

2636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-28 and 42-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3,43 and 44 is/are allowed.
- 6) ☒ Claim(s) 1,4-28,42 and 45-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/3/03;9/24/03</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is responsive to communication filed on August 2, 2005.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 4-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "the sensitivity parameter" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claims 4-20 are rejected for the same reason since they depend from a rejected claim.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4-20, are rejected under 35 U.S.C. 102(b) as being anticipated by Anderson (US 5,764,142).

Regarding claim 1, Anderson discloses an ambient condition detector (col. 1, lines 9-11) comprising: at least one of a smoke sensor or a thermal sensor

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(smoke detector) (col. 3, line 62); a sensor of incident radiant energy responsive to sources of radiant energy exclusive of the smoke sensor or the thermal sensor (infrared radiation) (col. 4, line 3); a control circuitry (control unit 12) (fig. 1) coupled to the sensors (fig. 1; col. 3, lines 50-55) and responsive to selected transient changes in incident radiant energy to shorten the time to respond to a predetermined ambient condition where the control circuitry is responsive to substantially step changes reducing radiant energy (low level of smoke) to increase sensitivity parameter (col. 6, lines 59-65).

Regarding claim 4, Anderson discloses additional circuitry responsive to incident radiant energy to determine the presence of a flame (slow burning fires) (col. 6 line 65).

Regarding claim 5, Anderson discloses executable instructions to process signals from the sensor of incident radiant energy to establish the presence of a flame (col. 6, line 65).

Regarding claim 6, Anderson discloses the smoke sensor is displaced from the sensor of incident radiant energy (col. 3, line 62).

Regarding claims 7-8, 12-13, Anderson discloses the control circuitry is at least in part, coupled to at least one of the sensors by a bi-directional communication medium (col. 3, lines 50-55).

Regarding claim 9, Anderson discloses the smoke sensor comprises a photoelectric type smoke sensor and responsive to radiant energy indicative of flame,

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the control circuitry shortens response time of the smoke sensor by at least one of increasing a sample rate of the smoke sensor (col. 3, 61-62; col. 6, lines 59-65).

Regarding claim 10, Anderson discloses incident radiant energy indicative of a flame, to increase a sensitivity parameter of the thermal sensor (col. 6, lines 59-65).

Regarding claim 11, Anderson discloses executable instructions for processing signals from the sensor of radiant energy to establish a flaming fire as a likely source of the radiant energy (col. 6, line 65).

Regarding claims 14-15, Anderson discloses executable instructions compare signals from the radiant energy sensor to a pre-stored fire profile (fig. 1, ref. 16; col. 3, lines 42-50)

Regarding claim 16, Anderson discloses additional instructions correlating signals from the light sensor with signals from the thermal sensor in establishing the presence of a fire condition (col. 5, lines 7-14).

Regarding claims 17-18, Anderson discloses additional executable instructions, responsive to an established flaming fire, for altering a response parameter of the thermal sensor (col. 5, lines 7-14; col. 6, lines 59-65).

Regarding claim 19, Anderson executable instructions responsive to a step change in incident radiant energy, to adjust a parameter of the other sensor (col. 6, lines 59-65).

Regarding claim 20, Anderson discloses executable instructions responsive to decrease in incident radiant energy (col. 6, lines 66-67).

3. Claims 21-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Tice (US 5,659,292).

Regarding claim 21, Tice discloses a detector for sensing an environmental condition (col. 1, lines 23-33) comprising: a light sensor (photoelectric) (col. 3, line 57) which generates a first signal indicative of incident ambient light intensity (col. 3, lines 56-65); at least a second sensor which generates a second signal indicative of a different environmental condition (humidity sensor 54) (fig. 3, ref. 54); a processor that receives the first and second signals, the processor using the first signal to alter a delay time associated with the second sensor, and the processor providing an indication of the presence of the environmental condition (fig. 3; col. 3, lines 56-67; col. 4, lines 1-22 and lines 31-64).

Regarding claim 22, Tice discloses the processor alters the delay time in response to the first signal indicating the presence of a fire condition (col. 4, lines 32-64).

Regarding claim 23, Tice discloses the environmental condition is at least one of a fire or a smoke condition (col. 3, lines 56-65).

Regarding claim 24, Tice discloses the processor alters the delay time in response to the first signal indicating the presence of a predetermined ambient light intensity (col. 3, lines 56-65; col. 4, lines 32-65).

Regarding claim 25, Tice discloses the first signal is indicative of a pattern of varying incident light (increase the level of reflected light) (col. 3, lines 61-65).

Regarding claim 27, Tice discloses fire (col. 3, lines 56-64).

Regarding claim 28, Tice discloses predetermined level of the second signal (col. 3, lines 60-65).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 26, 42, 45-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tice (US 5,659,292) in view of Muller (US 3,940,753).

Regarding claim 26, Tice discloses all the limitations in claim 21 but fails to explicitly disclose an optical filter and where the first signal is indicative of incident ambient light that has passed through the filter.

However, Muller discloses an optical filter and where the first signal is indicative of incident ambient light that has passed through the filter (optical filter filtering radiation from flame, for example passing red and blue light) (col. 3, line 68; col. 4, lines 1-3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Muller in Tice in order to transmit higher fidelity signals thereby preventing false alarm as taught by Muller (col. 3, lines 48-60).

Regarding claim 42, Tice discloses a method of monitoring a region (col. 1, lines 12-34) comprising: sensing a radiant energy parameter in a region (col. 3, lines 56-65); sensing a hazard parameter indicative of by-products of combustion in the region (col. 4, lines 8-14); sensing a thermal parameter in the region (col. 4, lines 60-64); evaluating the thermal parameter for an indication of elevated heat in the region ( thermal sensor measures a temperature above 135 degree) ( col. 4, lines 60-64); determining if the by-products of combustion are indicative of the presence of a hazardous condition in the region (col. 9-14).

Tice discloses all the limitations above but fails to explicitly disclose the step of evaluating the radiant energy parameter for the presence of flame and responsive thereto; altering a sensitivity parameter associated with at least one of the hazard parameter or the thermal parameter in response to the results of evaluating the parameters.

However, Muller discloses evaluating the radiant energy parameter for the presence of flame and responsive thereto (sensors 1 or sensor 2 are evaluated to detect the presence of flame) (col. 2, lines 20-26); altering a sensitivity parameter associated with at least one of the hazard parameter or the thermal parameter in response to the results of evaluating the parameters (col. 2, lines 20-30; col. 6, lines 4-5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Muller in Tice in



order to transmit higher fidelity signals thereby preventing false alarm as taught by Muller (col. 3, lines 48-60).

Regarding claim 45, Tice discloses the step of producing an indicium of a selected hazardous condition in response to sensing at least one of the hazard parameter or the thermal parameter (col. 3, lines 64-65; col. 4, lines 60-64).

Regarding claim 46, Tice discloses the step of altering the indicium in response to sensed radiant energy (col. 3, lines 64-65; col. 4, lines 32-42).

Regarding claim 47, Tice discloses the step of increasing a magnitude of the indicium in response to sensed radiant energy (increasing density) (col. 3, lines 60-65).

Regarding claims 48-49, Tice discloses producing the indicium, at least in part, in response to the sensed hazard parameter > Claim 49 to the sensed thermal parameter (col. 3, lines 60-65; col. 4, lines 60-64).

Regarding claim 50, Tice discloses increasing a magnitude of the indicium in response to sensing a flaming condition (col. 3, lines 60-65; col. 4, lines 60-64).

Regarding claim 51, Tice discloses coupling at least some of the parameters to a displaced location for processing (fig. 3-fig. 4).

Regarding claim 52, Tice discloses the step of sensing at least the radiant energy and the hazard parameter at spaced apart locations in the region (col. 5, lines 31-35).

***Allowable Subject Matter***

6. Claims 3, 43, 44, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: in combination with all the limitations in the claim, the prior arts fail to teach or make obvious: the response time is responsive to increasing radiant energy to reduce the sensitivity parameter and to substantially step changes reducing radiant energy to increase the sensitivity parameter.

***Response to Arguments***

8. Applicant's arguments with respect to claims 1, 4-20, 21-28, 42, 45-52 have been considered but are moot in view of the new ground(s) of rejection.

According to Applicant's argument on page 11 "processor 40 of Tice does not receive the first and second signals". The examiner respectfully disagrees with the Applicant because Tice discloses a processor 40 couple with a smoke detector 52 and humidity detector 54 (fig. 3; col. 4, lines 44-46).

In response to Applicant's argument that there is no suggestion to combine Tice and Muller, the Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. In re Nomiya, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly

articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. In re McLaughlin, 170 USPQ 209 (CCPA 1971). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. In re Bozek, 163 USPQ 545 (CCPA) 1969. In this case, Tice is directed to fire sensor and Muller is directed to detection of presence or absence of flames. Both references are directed to the same field of endeavor, therefore the combination is proper.

Applicant has failed to specifically point out how the language of the claims patentably distinguishes them from the references. He or she must also show how the amendments avoid such references. In this case, Applicant has failed to clearly point out patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited.

For at least the above reasons, the rejection of claims 1, 4-28, 42, 45-52 is sustained.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Anderson (US 6,150,935) discloses a fire alarm system with discrimination between smoke and non-smoke phenomena.

Peltier et al. (US 5,708,414) discloses a sensitivity fault indication technique implemented in smoke detector system with self-diagnostic capabilities.

Wiemeyer (US 5,726,633) discloses an apparatus and method for discrimination of fire types.

Bauer (US 4,680,576) discloses a photoelectric smoke detector and alarm system.

Jen et al. (US 6,445,292) discloses a processor based wireless detector.

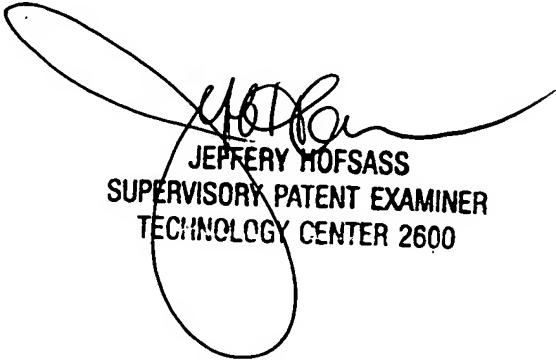
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Previl whose telephone number is (571) 272-2971. The examiner can normally be reached on Monday-Thursday. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Previl  
Examiner  
Art Unit 2636

DP  
October 12, 2005.

  
JEFFERY HOFSSASS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600